

IN THE CLAIMS:**Please amend claim 1:**

All other claims presently in the case are presented below for the convenience of the examiner.

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1 1. (Twice Amended) A method of fabricating an electronic device, comprising the
2 steps of:

3 a) providing a coil of conductor and an insulation, said coil of
4 conductor having a coil outer surface, said insulation on said coil
5 outer surface;

6 b) forming openings in portions of said insulation on said coil outer
7 surface and exposing conductor of said coil for contacts; and

8 B1 c) dicing through said coil to provide a plurality of short coils,
9 wherein (said dicing step disconnects mechanical connection
10 between adjacent short coils) and wherein each said short coil has
11 at least one said opening in said insulation.

1 2. The method as recited in claim 74, wherein said providing step (a) comprises the
2 step of providing a tube and a wire, and winding said wire around said tube.

1 3. The method as recited in claim 2, wherein, in said providing step (a), said wire
2 comprises two ends, wherein neither of said ends extends from said coil for
3 contacting.

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- 1 4. The method as recited in claim 1, further comprising the steps of:
2
3 e) providing a substrate; and
4
5 f) surface mounting said coil to said substrate.
- 1 5. The method as recited in claim 4, wherein, in said providing step (e), said
2 substrate comprises a printed circuit board, a ceramic substrate, a flexible
3 material, or an integrated circuit.
- 1 6. The method as recited in claim 4, wherein said surface mounting step (f)
2 comprises the step of electrically connecting conductor exposed in said opening
3 in said insulation to said substrate.
- 1 7. The method as recited in claim 6, further comprising the step of providing a
2 solder or conductive polymer, wherein said electrical connecting step comprises
3 joining with said solder or said conductive polymer.
- 1 8. The method as recited in claim 7, wherein said joining step comprises providing
2 solder paste between said substrate and said conductor exposed in said window
3 and heating to reflow said solder.
- 1 9. The method as recited in claim 4, further comprising the step of mounting
2 additional electronics on said substrate.
- 1 10. The method as recited in claim 9, further comprising the step of connecting said
2 additional electronics to said coil.

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- 1 11. The method as recited in claim 10, further comprising the step of providing a
2 housing for holding said coil, said substrate, and said additional electronics.
- 1 12. The method as recited in claim 11, further comprising the step of hermetically
2 sealing said housing.
- 1 13. The method as recited in claim 11, further comprising the step of providing pins
2 for external connection through said housing.
- 1 14. The method as recited in claim 11, wherein said coil and said additional
2 electronics comprise a sensor.
- 1 15. The method as recited in claim 14, wherein said sensor comprises a variable
2 reluctance transducer.
- 1 16. The method as recited in claim 14, wherein said sensor is for measuring strain,
2 displacement, acceleration, force, or pressure.
- 1 17. The method as recited in claim 14, further comprising the step of providing a
2 circuit to correct for temperature variation.
- 1 18. The method as recited in claim 17, wherein said circuit is integrated within said
2 housing.
- 1 19. The method as recited in claim 17, wherein said circuit is located within signal
2 conditioning electronics separate from said housing.

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- 1 20. The method as recited in claim 9, wherein said additional electronics provides
2 excitation or synchronous demodulation.
- 1 21. The method as recited in claim 9, wherein said additional electronics converts an
2 ac waveform to a dc voltage.
- 1 22. The method as recited in claim 1, further comprising the step of enclosing said
2 coil in a housing and hermetically sealing said housing.
- 1 23. The method as recited in claim 1, wherein said step of forming openings in
2 portions of said insulation comprises laser ablating said insulation.
- 1 24. The method as recited in claim 23, wherein said step of laser ablating said
2 insulation, comprises directing light from a laser on said insulation.
- 1 25. The method as recited in claim 23, wherein said coil comprises a plurality of
2 turns of said wire and wherein said step of laser ablating said insulation
3 comprises opening said insulation over a plurality of said turns of wire.
- 1 26. The method as recited in claim 23, wherein said step of laser ablating said
2 insulation comprises ablating a ring shaped opening in said insulation.
- 1 27. The method as recited in claim 1, wherein said insulation comprises polyimide.
- 1 28. The method as recited in claim 75, further comprising the step of providing a
2 structure for holding position of said core within said tube.

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- 1 29. The method as recited in claim 28, further comprising the step of providing a
2 structure for resetting position of said core within said tube.
- 1 30. The method as recited in claim 29, wherein said structure for resetting position of
2 said core within said tube comprises an electronically controllable clamp.
- 1 31. The method as recited in claim 30, wherein said electronically controllable clamp
2 comprises a shape memory alloy.
- 1 32. The method as recited in claim 29, wherein said structure for resetting position of
2 said core further comprises a spring so said core can snap to a new position when
3 said clamp is released.
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- 1 72. The method as recited in claim 1, wherein said step of forming openings in
2 portions of said insulation comprises abrading said insulation.
- 1 73. The method as recited in claim 1, wherein said step of forming openings in
2 portions of said insulation comprises chemically etching said insulation.
- 1 74. The method as recited in claim 1, wherein said providing step (a) comprises
2 providing said coil of conductor and said insulation on a tube.
- 1 75. The method as recited in claim 74, further comprising the step of providing a
2 movable core within said tube for adjusting inductance of said coil.

1 76. The method as recited in claim 75, further comprising the steps of:

2
3 e) providing a substrate; and

4
5 f) surface mounting said coil to said substrate.

1 77. The method as recited in claim 76, wherein, in said providing step (e), said
2 substrate comprises a printed circuit board, a ceramic substrate, a flexible
3 material, or an integrated circuit.

1 78. The method as recited in claim 76, wherein said surface mounting step (f)
2 comprises the step of electrically connecting conductor exposed in said opening
3 in said insulation to said substrate.

1 79. The method as recited in claim 78, further comprising the step of providing a
2 solder or conductive polymer, wherein said electrical connecting step comprises
3 joining with said solder or said conductive polymer.

1 80. The method as recited in claim 79, wherein said joining step comprises providing
2 solder paste between said substrate and said conductor exposed in said window
3 and heating to reflow said solder.

1 81. The method as recited in claim 76, further comprising the step of mounting
2 additional electronics on said substrate.

1 82. The method as recited in claim 81, further comprising the step of connecting said
2 additional electronics to said coil.

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- 1 83. The method as recited in claim 82, further comprising the step of providing a
2 housing for holding said coil, said substrate, and said additional electronics.
- 1 84. The method as recited in claim 83, further comprising the step of hermetically
2 sealing said housing.
- 1 85. The method as recited in claim 83, further comprising the step of providing pins
2 for external connection through said housing.
- 1 86. The method as recited in claim 83, wherein said coil and said additional
2 electronics comprise a sensor.
- 1 87. The method as recited in claim 86, wherein said sensor comprises a variable
2 reluctance transducer.
- 1 88. The method as recited in claim 86, wherein said sensor is for measuring strain,
2 displacement, acceleration, force, or pressure.
- 1 89. The method as recited in claim 86, further comprising the step of providing a
2 circuit to correct for temperature variation.
- 1 90. The method as recited in claim 89, wherein said circuit is integrated within said
2 housing.
- 1 91. The method as recited in claim 89, wherein said circuit is located within signal
2 conditioning electronics separate from said housing.

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- 1 92. The method as recited in claim 81, wherein said additional electronics provides
2 excitation or synchronous demodulation.
- 1 93. The method as recited in claim 81, wherein said additional electronics converts
2 an ac waveform to a dc voltage.
- 1 94. The method as recited in claim 75, further comprising the step of enclosing said
2 coil in a housing and hermetically sealing said housing.
- 1 95. The method as recited in claim 75, wherein said step of forming openings in
2 portions of said insulation comprises laser ablating said insulation.
- 1 96. The method as recited in claim 95, wherein said step of laser ablating said
2 insulation, comprises directing light from a laser on said insulation.
- 1 97. The method as recited in claim 96, wherein said laser comprises an excimer laser.
- 1 98. The method as recited in claim 95, wherein said coil comprises a plurality of
2 turns of said wire and wherein said step of laser ablating said insulation
3 comprises opening said insulation over a plurality of said turns of wire.
- 1 99. The method as recited in claim 95, wherein said step of laser ablating said
2 insulation comprises ablating a ring shaped opening in said insulation.
- 1 100. The method as recited in claim 2, wherein said wire comprises an insulated wire
2 and said step (a) comprises winding said insulated wire around said tube.
- 1 101. The method as recited in claim 24, wherein said laser comprises an excimer laser.

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2 102. A method of fabricating an electronic device, comprising in order, the steps of:

- 3 a) providing a coil of conductor and an insulation, said coil of
4 conductor having a coil outer surface, said insulation on said coil
5 outer surface;
- 6 b) forming openings in portions of said insulation on said coil outer
7 surface and exposing conductor of said coil for contacts;
- 8 c) dicing through said coil to provide a plurality of short coils,
9 wherein each said short coil has at least one said opening in said
10 insulation;
- 11 d) providing a substrate;
- 12 e) surface mounting said coil to said substrate;
- 13 f) mounting additional electronics on said substrate;
- 14 g) connecting said additional electronics to said coil; and
- 15 h) providing a housing for holding said coil, said substrate, and said
16 additional electronics.

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1 103. A method of fabricating an electronic device, comprising in order, the steps of:

- 2 a) providing a coil of conductor, an insulation, and a tube, said coil of
3 conductor having a coil outer surface, said insulation on said coil
4 outer surface, said coil of conductor and said insulation on said
5 tube;
6 b) forming openings in portions of said insulation on said coil outer
7 surface and exposing conductor of said coil for contacts;
8 c) dicing through said coil to provide a plurality of short coils,
9 wherein each said short coil has at least one said opening in said
10 insulation; and
11 d) providing a movable core within said tube for adjusting inductance
12 of said coil.